

CANINE IMMUNE SUPPORT

The immune system is not one discreet organ, but a range of tissues and cellular functions. These tissues include: bone marrow, thymus, small intestine, spleen, lymph tissue, and liver. **Canine Immune Support** provides a combination of vitamins, minerals, tissue substrates, and phytochemicals that have an immunomodulatory effect. The nutrients in **Canine Immune Support**, known as functional foods, have been shown to contain a wide range of trace nutrients that benefit specific organs and tissues. **Canine Immune Support** is formulated to normalize immune function by supporting the entire range of tissues and cellular functions that make up the immune system.

Indications for Use:

- General immune system support
- Patients with reduced immune function or with increased immune function
- Patients with chronic immune dysfunction
- Patients that are receiving drugs that are known to create immune stress
- Pre-surgical and post-surgical patients
- Patients requiring modulation of autoimmune responses

Systems Supported:

- **Thymus** – primary support of the thymus mediated with thymus PMG and thymus cytosol
- **Bone marrow** – primary support of the bone marrow mediated with veal bone PMG, liver, flaxseed oil, and black currant seed oil
- **Small intestine** – primary support mediated with desiccated duodenum, desiccated jejunum, pancreas cytosol
- **Spleen** – primary support of the spleen mediated with desiccated spleen and spleen PMG
- **Liver** – primary support for the liver mediated with desiccated liver, bile salts, Spanish Black Radish, rice bran, nutritional yeast, defatted wheat germ, mushroom, ribonucleic acid, pea vine juice, and oat flour
- **Adrenal** – secondary support of the immune system through support of the adrenal gland with adrenal cytosol, black currant juice, and *Eleutherococcus senticosus*
- **Immune tissue** – general immune tissue support mediated by zinc liver chelate, calcium lactate, veal bone PMG, *Withania somnifera*, and flaxseed oil

Whole Food Ingredient Sources:

- **Tissue desiccates** – trachea, liver, adrenal, kidney, jejunum, and duodenum
- **Vitamin A complexes** – liver and kidney
- **Vitamin B complexes** – liver, defatted wheat germ, and oat flour
- **Vitamin C complexes** – black currant juice, adrenal, and mushroom
- **Vitamin E complexes** – pea vine juice, chlorophyll, and wheat germ oil
- **Bioflavonoids** – buckwheat leaf juice and seed
- **Carotenoids** – carrot
- **Enzymes** – bromelain
- **Fatty acids** – black currant seed oil, and flaxseed oil
- **Minerals** – alfalfa juice and *Strombus gigas*
- **Botanical phytonutrients** – *Boswellia serrata*, *Eleutherococcus senticosus*, and *Tillandsia usneoides*
- **Protomorphogens** – veal bone, heart, and thyroid

Individual Ingredients:

Bovine liver - works synergistically w/liver PMG to provide important cell substrates for hepatic cells and Kupffer cells. This is important for metabolic processes of the liver and bacterial toxin removal.

Nutritional yeast - provides a range of the whole vitamin B complexes that aid in nerve conduction and intestinal contractions.

Bovine and ovine spleen – provides cellular materials from immune cells in the spleen.

Rice bran - - provides whole vitamin B complex, important for cell energy reactions.

Flaxseed oil – contains alpha-linoleic acid, an omega-3 fatty acid that benefits multiple body systems including the immune system, integument, and cardiovascular system.

Bovine Spleen PMG™ Extract – supports splenic immune function by improving the local nutritional environment of spleen cells.

Bovine Thymus PMG™ Extract – supports thymic immune function by improving the local nutritional environment of thymus cells.

Carrot - source of whole vitamin A complex, trace minerals

Bovine kidney – kidney support, cell substrates for kidney cells.

Bovine Thymus Cytosol™ Extract – cellular components that support specific thymic cellular function

Buckwheat leaf juice and seed – Source of bioflavonoids. Provide general benefits for healing and reducing inflammatory conditions. The bioflavonoids are useful for improvement of capillary fragility and promotion of normal arterial elasticity (Berger, 1992). A major source of building blocks and supportive nutrients for the heart and other vascular structures.

Bovine Pancreas Cytosol™ Extract – cellular components that support specific pancreatic cellular function

Pea vine juice – source of whole vitamin E complex. Important antioxidant

Eleutherococcus senticosus – contains eleutherosides, triterpenoid saponins and other compounds that work to promote vitality, enhance immune system function and support the body's ability to adapt to stress.

Porcine duodenum and jejunum– contains important cellular substrates specific to duodenal tissue, contains specific cytoplasmic and nuclear fractions that improve the local nutritional environment and support appropriate enterocyte and intestinal function.

Black currant juice – rich source of vitamin C complexes, also an excellent source of omega-6 essential fatty acids.

Bovine Adrenal Cytosol™ Extract – cellular components that support specific adrenal cellular function.

Veal bone PMG™ Extract – primary support of bone marrow, improves local nutritional environment of bone and bone marrow.

Oat flour – Vitamin A source, supports capillary integrity

Calcium lactate – bioavailable source of calcium for muscle contraction, immune function.

Purified bovine bile salts – the presence of bile salts in the intestine is a stimulus for secretion of bile. This benefits the liver, digestion and absorption, and the microenvironment of the intestine (Gruy-Kapral, 1999, Kishinaka, 1994, Guarner, 1997, Hofmann, 2002, Lorenzo-Zuniga, 2003).

Defatted wheat germ - source of vitamin E complex, vitamin B complex, trace minerals, antioxidant.

Mushroom powder - rich source of vitamin C and tyrosinase

Spanish Black Radish – an excellent source of lecithin, a precursor to choline; a substance crucial for proper central nervous system, liver, cardiovascular and immune system health. Also an excellent source of essential fatty acids.

Ribonucleic acid – nucleic acid occurring in cell cytoplasm and the nucleolus, general circulation support

Bovine Adrenal PMG™ Extract – supports adrenal function by improving the local nutritional environment.

Tillandsia usneoides (Spanish Moss) – contains significant amounts of various minerals, chlorophyll, and most of the B vitamins.

Withania somnifera (Indian Ginseng, Ashwagandha) – studies indicate *Withania somnifera* possesses antistress, antioxidant, immunomodulatory, hemopoetic, and cellular regeneration properties. It also appears to exert a positive effect on the endocrine, cardiopulmonary, and central nervous systems.

Zinc Liver Chelate – source of liver-chelated zinc for immune, dermal and general system support.

Kelp – Seaweed, a good source of trace minerals

Black Currant Seed Oil – an excellent source of omega-6 fatty acids, such as gamma linoleic acid.